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*cp.2* It is good to be back on the campus of this great institution. Though my diploma from The University of Michigan hangs prominently on the wall of my office in Washington, there is no substitute for the freedom and challenge of the university environment itself, which so inspired me as an undergraduate.

I know how you feel this afternoon. Back in 1955--in that antediluvial time that students now irreverently call the Old Days--I, too, received an award at such a natural resources honors convocation--the Pack Foundation prize for conservation journalism. Would you believe my winning essay, on natural resources public relations, was built around the story of Smokey the Bear?

It is a time to be proud of your accomplishments. You deserve it.

Soon, of course, you must find a job--if you haven't already. Those of you who receive honors today will find that a notation of that award on your personal resume' will pay off--sooner or later. For me, it was later. My first job after graduation was writing booklets on how to operate cameras--for Argus Cameras, downtown on 4th Street, as a matter of fact. But the notation did pay off.

Perhaps more important on that personal resume' will be the fact that you met the requirements for a degree set by The University of Michigan. Now that has real meaning in the field of natural resources.

Whenever there has been active competition for forestry graduates from all forestry schools, those who attended The University of Michigan have been among the most highly prized of all. Two of them, Earle H. Clapp, who received his A.B.

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Remarks by Dr. M. Rupert Cutler, Assistant Secretary of Agriculture for Conservation, Research and Education, at the honors convocation of the School of Natural Resources, The University of Michigan, in Ann Arbor, 1:30 p.m., Friday, April 7, 1978

from The University of Michigan in 1905, and Richard E. McArdle, who received his doctorate from The University of Michigan in 1930, have served as chief of the Forest Service.

And a nation which loves its natural resources will never forget that giant of forestry education, Samuel T. Dana, who served as dean of your school of forestry and conservation for so many years. His students and those of Filibert Roth, who headed your university's department of forestry when it was created 75 years ago, have profoundly affected the natural resources history of the United States.

So the nation celebrates with you here at Ann Arbor your 25th anniversary of the world's first school of natural resources, your 50th anniversary of the school of forestry and conservation, and your 75th anniversary of forestry education at the university. I certainly hope to stay around long enough to see what you come up with in the next 25 years.

Your careers will be exciting. This is a challenging and rewarding time to enter the field of natural resources conservation and management.

Don't get me wrong--it probably won't be an easy time. I'm sure you know that. Jobs in natural resources are not abundant. And budgets are tight.

But for those of us who are in natural resources, the challenge of management in the midst of continuing controversy over the best use of our resources tests our best efforts every day. And what more can a person ask?

Fortunately, there will be a beneficiary of our dedicated efforts--our nation itself.

Americans expect a lot from the natural resources they inherited. In fact, they tend to take them for granted. Fortunately, most of these resources are renewable--but they will be renewed in adequate quantities and qualities only if managed intensively through skilled application of researchers' most up-to-date

recommendations. Meeting the increasing demands of tomorrow is what you have been educated for. Despite public and private budgetary restrictions and the apparent employment plateau for resource managers at the moment, necessity will call your skills into action.

The population of the United States has increased by 100 million people in the past 50 years, and some project another 150 million people in the next half-century. Americans expect a continuing supply of products and services from our forest and rangelands. And they also demand a cleaner, healthier, more attractive environment. They believe that the expertise and the funds--their tax dollars--are available to accomplish this. And they expect their leaders to produce results.

For instance, there is an important opportunity to stretch our timber supply through more efficient use of what we are now cutting. In 1970, more than 20 million cords of wood were left unused in the forests after logging or clearing the land. There are far greater volumes of rough and rotten trees, dead trees, limbs, material under four inches in diameter and roots. Without harm to the nutrient cycle, much of that cellulose could have been--and in the future, will be--converted to products or energy.

Beyond that, timber harvest can be increased over time if additional investments are made in genetically controlled stock, reforestation, weeding, thinning, and salvage on already-accessible high-quality sites. That calls for enlightened management at every level.

You certainly are needed in the forests.

You are needed in land use planning, in the preparation of environmental impact statements, in environmental education, in recreation area design and administration, and in a host of other endeavors.

The rising sweep of public expectation has prompted significant changes of emphasis in our natural resource programs. Since the beginning of this decade,

most of the basic authorities which guide Federal programs have been re-established, revised or strengthened to reflect new requirements and changing conditions. The emphasis is on holistic planning, on environmental protection. . .on sound analysis of alternatives.

And Congress is considering several bills which would continue the rechartering of our natural resources programs. Because some of these bills authorize additional federal support of state natural resources and cooperative extension agencies, we anticipate that your expertise soon will be needed more at the State level, too.

Urban forestry and wildlife management are promising fields. So are wilderness administration, wildland landscape architecture, hardwood forest products research, aquaculture, and energy resource development, to name just a few fields of opportunity.

The Food and Agriculture Act of 1977 gave USDA new authority to conduct and support research and extension in aquaculture and in the conversion of forest biomass into energy.

When Congress appropriates funds for these purposes, this will importantly supplement our present USDA programs of support for cooperative research (under the Hatch and McIntyre-Stennis Acts) and cooperative extension (under the Smith-Lever Act) at state universities.

I have directed the Extension branch of USDA's new Science and Education Administration to employ a new staff of natural resources extension specialists. Creation of this new program staff, parallel to Federal Extension's traditional production agriculture, community development and other program units, if combined with passage of the pending "Renewable Resources Extension Act" to provide earmarked funding for state university cooperative extension work in forestry and wildlife management, could lead to the creation of many more extension specialist positions in your areas of expertise.

And I have urged the Civil Service Commission to create a new professional job classification for wildland recreation specialists, so that such skills may be properly recognized in government work.

Government, I want to emphasize, is a good employer. Public agencies are good places to exercise your professionalism.

From a practical standpoint, the measure of your professionalism will be how much you know about your field of work. You will be called upon primarily for your technical competence in wrestling with complex resource problems.

Therefore, each of us must continually nurture the scientific or technical basis of our professional competence. We must try to expand it, through research and observation. We must increase our understanding through continuing education and discussion.

But, to paraphrase Peggy Lee, is that all there is to professionalism, my friend?

Certainly not. Each of us has a responsibility to apply the knowledge and skill of our profession to benefit society at large. Our world of forests and streams and meadows is really a sub-world. There are 200 million Americans out there who want nothing more to do with natural resources than to consume and enjoy them. Their primary concerns lie elsewhere. They are leaving the driving to us. And we must look out for their best interests--short-term and long-range.

That's professionalism. But is it also elitism--in the derogatory sense of that word? Do we look down on the people we serve. . . speak condescendingly of them? That is always a trap for those with a special knowledge. And as Secretary Bob Bergland likes to say, "that turkey won't fly" in our American democracy. The people won't stand for it, any more than they will take the continual degradation of our environment.

The days of resource management by intuition--or by professional decision-making without public involvement--are long gone. Natural resources decisions affect too many people's lifestyles and vital interests to be left to a few specialists. What's in the public interest--not so much the answer to the "how" question as the answer to the "whether" question--has to be determined by the public, not simply by technicians or even professionals.

Increasingly, many of the decisions we must make concerning our natural resources are distributional in nature. That is, almost every decision makes some people better off--others worse off. In extreme situations, the results are called "windfalls and wipeouts." We must be concerned about the losers.

Our scientific training helps us approach decisions objectively. But, because these decisions are largely social or economic in their implications, they often transcend the narrow technical content of our profession.

Are we uniquely qualified to make the value judgments involved? No.

Terms that we handle so glibly, like land management planning, resource allocation, programmed allowable harvest and non-point sources of pollution, are about people and their problems--families struggling to build a decent life, to raise their children in a clean and healthy environment, and to gain the pride and security that comes from steady work.

We have a responsibility to consider the effects of our decisions on persons--to relate our actions to impacts on individual people, as well as to the well-being of the resource--and to make those decisions with compassion and care. And the public must be thoroughly involved.

Thomas Jefferson expressed it this way:

"I know no safe depository of the ultimate powers of the society but the people themselves; and if we think them not enlightened

enough to exercise their control with a wholesome discretion, the remedy is not to take it from them, but to inform their discretion."

To summarize: Resource managers are being called upon to make decisions which affect people--decisions that have definite social impacts. We must recognize this, involve the public in our decisionmaking processes, be truly open-minded and responsive, and seek the breadth of vision these decisions demand.

We have learned, though, that decisions made solely on the basis of short-term economic benefits are sometimes very costly in their ecological consequences. These adverse consequences eventually affect people, too.

We have the benefit, now, of 20/20 hindsight on the decisions of the 1920's to plow up unending acres of Oklahoma and Nebraska prairieland for wheat; the decisions of the 1940's, '50s and '60s to use DDT to control insect pests; and the decision of the early '70s to plow up hedgerows, windbreaks and marginal lands to grow grain. I'm looking hard at our use of 2, 4, 5-T in brush control, and I've essentially stopped stream channelization--we don't want to continue making mistakes.

Biological systems have their own laws, introduced and amended over eons. Resource professionals must know these natural laws, as well as those passed by legislators. We must be competent in working with biological systems, as well as with political and social systems.

The academic community, of course, has an important role to play. Colleges and universities must constantly improve the standards of professional excellence. Each class is better than its predecessor. You are better trained than I was--and I got the best of my time. . .including instruction from Dr. John Carow, whose imminent retirement will be a blow to the SNR faculty.

Natural resources agencies must broaden the base of expertise available for resource management. Throughout this decade, contrary to allegations that it

gives a hiring advantage to foresters, the Forest Service has increased its emphasis on hiring professionals from a range of disciplines beyond forestry.

From 1971 to 1977, the number of social scientists employed permanently by the Forest Service increased by 35 percent; the number of geologists more than doubled; the number of archaeologists increased 6-fold; wildlife biologists more than doubled in number. And the number of foresters employed increased by little more than 2 percent.

This helps broaden the Forest Service's perspective when the decisions are made.

The Soil Conservation Service employs more agricultural engineers than any other outfit, but it also has more than 100 biologists on its payroll, who serve at nearly every level of the agency--from an office serving several counties, to a state office, to a technical service center aiding a dozen or more states, to the national headquarters.

I worked with SCS last fall to reorganize its regional technical service centers so that all technical people in that agency--including biologists--would work side by side as equals in making decisions on agency programs. As a team, these people from a number of different specialties are more responsive to the needs of the public.

Each of us has an individual responsibility to continue our education, through graduate work, or active participation in professional and scientific societies, or continuing education opportunities throughout our careers, or all three. We must continue to refresh our knowledge, to keep abreast of new developments in our profession.

We also must be responsible, as professionals for the decisions we make--the actions we take--to assure that they are in the long-term interest of the American people.

Let's take this one step further.

I believe that professionals in the natural resource field should help shape sound resource policy. We should be involved in the policy process, using our knowledge to help assess resource problems, and analyze the probable consequences of alternative solutions. Professional opinion is vital to the formulation of sound land-management policies and programs, and we should be sure it is provided.

And I would like to propose that resource professionals use their expertise to help initiate natural resource policy. We should continually assess the problems and opportunities in contemporary society and, where our expertise is applicable, take action.

Resource professionals should take the initiative of proposing needed policy additions or changes to best achieve the aims of the American people as they relate to natural resources. Let's be activists, not just analysts, in shaping sound resource policy.

There is concern among top-level resource professionals about the future role of the professionals in formulating natural resource policy.

There are those who believe that the professionals cannot be the policy-makers; that they cannot be sensitive to the needs of the American people; that they obstruct policy changes which respond to public desires, by dragging their feet in implementing them or leaking negative information to the Congress or to the press.

I don't buy that. My experience has been that resource professionals are every bit capable of finding out the needs of the American people--and that generally requires asking the people what their needs are--and then formulating sound, practical resource policy which is sensitive to those needs.

The President, of course, must be able to make enough top-level changes to change policy direction.

But I have found that dedicated career professionals are responsive to new directions--that they await only their new marching orders.

One of the rewarding aspects of my job is the opportunity it gives me to work with the professionals in each of the "conservation-research-education" agencies of USDA; John McGuire of the Forest Service, Mel Davis of the Soil Conservation Service, Jim Nielson of the Science and Education Administration, and their staffs. You are well served by these people. They are highly competent professionals. And I have always found their recommendations based on the firm foundation of their professional backgrounds.

Our job is to make informed decisions--decisions based on the best information and advice available--within the direction and intent of the President and the Congress. And we must decide what is the best alternative in the national interest. . .or in the public interest, if you will.

The public interest, according to Walter Lippman, is "what men would choose if they saw clearly, thought rationally, acted disinterestedly and benevolently."

Informed decisions require that we get a diversity of opinion, pro and con, on a broad range of policy alternatives. I don't believe we are well served--and the public certainly isn't, either--when we are presented a narrow set of options, viewed with blinders on.

We must try to find the truth in the facts before us. We will err in our decisions if we assume that (1) there is a single truth; (2) that we can find it; and (3) that desirable results always will occur. There often isn't, we often can't, and they often don't. Yet we must make decisions--it's our job.

Professionals may disagree with policy decisions. It's healthy. It shows a ferment of thoughts and ideas. In USDA, the feedback loop is open; I expect to hear my staff's "better ideas."

The decision processes we use in the Department of Agriculture are intended to serve the public interest. We are a resource-oriented agency. But from the beginning, we have been a people's department. President Lincoln decreed it should be, and Secretary Bergland has reaffirmed it. The fruits of our efforts--the food, fiber and other products of the land--certainly affect people. And our decisions must blend an understanding of the sciences of our professions with the wants and needs of the public.

What you have learned at The University of Michigan's School of Natural Resources will help you help people as well as or better than any curriculum on campus. . .no matter what job you tackle in the years ahead.

Don't be overly concerned if you can't find a job immediately in the field of your specialized training. Look at my own checkered career: After obtaining my degree in wildlife management here in 1955, I wrote camera instruction books, edited a weekly newspaper, ran a railroad freighthouse, sold cameras. . .and finally became executive secretary of a sportsman's group, Wildlife Conservation Incorporated, in Boston. After that until I went to graduate school, I was involved in wildlife education and editing for 11 years. After I received my doctorate, I became a faculty member at Michigan State University.

So persistence pays off. Keep in touch with your university. Attend professional meetings. Start as a "temporary." Something will develop.

No matter how you ultimately pursue your careers--in government, industry or the academic community--remember that our profession will reflect how we perform as individuals, no more and no less.

Do not forget that we are, first of all, Homo sapiens--with very human failings and very human aspirations. Every quality that we possess as humans is brought to our profession.

I am sure you will bring to your profession a high standard of excellence and ethical performance. Professionals are known by their products. I trust that excellence will be the hallmark of yours.

Two weeks ago I attended an awards ceremony in Washington, honoring ten of the most outstanding young career professionals in the Federal Government.

These awards--the Arthur S. Flemming Awards--were presented to recognize these outstanding individuals for the job they did, and to enhance appreciation of our form of government--the opportunities and responsibilities it presents. A USDA Science and Education Administration soil scientist was one of the ten recipients. But these awards also were presented to attract outstanding persons to the Federal Government and encourage them to high standards of performance.

There is a wealth of opportunity for you, as you begin your resource careers, in working with one of our resource agencies. The employment opportunities don't look promising right now, I admit. But you may have the chance to use your resource expertise in a way which is of immense service to the American people. And that, in itself, is highly rewarding. In a cynical age, I suppose the notion of "public service" is scoffed at, but it's the bedrock on which our natural resources programs are built.

I hope that I may meet some of you who received awards here today, again in a few years, as you receive awards for outstanding public service.

The current ceilings on employment and budgets will not always exist in natural resources. The American people are beginning to realize their ties to the land, and the importance of the well-being of our Nation's natural resource base to the continuation of their "good life." We will need to manage these re-

sources more intensively to reconcile growing and competing demands for their use.

As an example of what the future holds, and of interest to the fisheries majors, USDA is increasing its activities in support of aquaculture, or fish farming. More than 100 million pounds of fish and shellfish are produced by aquaculture now, and we think the total can be 10 times that much in a few years.

Such production will require more research, more education, and more technical help to producers out on the land. Stepped-up federal programs mean increased demands for qualified graduates in aquatic sciences and other fields.

We are facing great challenges in natural resources management. But we have faced great challenges in the past, have overcome them, and have gained strength in the process. It will soon be your turn to face those challenges. Someone must. If you believe, and if you care, the future is very bright.

In 1903, President Theodore Roosevelt addressed the annual meeting of the Society of American Foresters on forestry and foresters. I would like to use his words in closing. They apply to the broad field of resource management.

"You are engaged," Roosevelt said, "in a calling whose opportunities for public service are very great. Treat that calling seriously; remember how much it means to the country as a whole. . .The profession you have adopted is one which touches the Republic on almost every side--political, social, industrial, commercial; to rise to its level you will need a wide acquaintance with the general life of the nation, and a viewpoint both broad and high.

"You must instill your own ideals into the mass of your fellowmen, and at the same time show your ability to work with them in practical and business fashion. This is the condition precedent to your being of use to the body politic."

It is a delight being back here today. Good luck, and thank you for your kind attention.





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